

ABSTRACT OF THE DISCLOSURE

A plasma processing apparatus having a plasma generating unit, a process chamber capable of having an inside pressure thereof reduced, a process gas supply unit for supplying gas in the process chamber, a specimen table for holding a specimen, a vacuum pumping unit, and a monitor unit. The process chamber includes an outer cylinder having the capability of withstanding a reduced pressure, and an inner cylinder arranged inside the outer cylinder. The monitor unit enables monitoring of a temperature of the inner cylinder of the process chamber continuously or optionally at a time of processing a specimen.